EXHIBIT 38

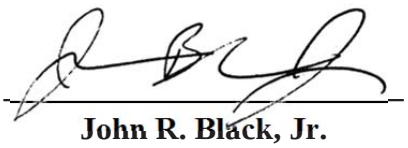
UNITED STATES DISTRICT COURT
NORTHERN DISTRICT OF CALIFORNIA
SAN JOSE DIVISION

CISCO SYSTEMS, INC., Plaintiff, v. ARISTA NETWORKS, INC., Defendant.	Case No. 5:14-cv-05344-BLF (PSG)

SUPPLEMENTAL EXPERT REPORT OF JOHN R. BLACK, JR.

September 30, 2016

CONTAINS HIGHLY CONFIDENTIAL MATERIAL
SUBJECT TO PROTECTIVE ORDER



John R. Black, Jr.

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I. INTRODUCTION AND BACKGROUND

1. My name is John R. Black, Jr. I am an Associate Professor of Computer Science at the University of Colorado, Boulder. Arista has engaged me to provide expert testimony to assist the jury on matters related to Cisco Systems, Inc.'s allegations of copyright infringement in this lawsuit.

2. I have previously submitted two expert reports in this matter: the first was submitted on June 3, 2016 entitled "Expert Report of John R. Black, Jr.," which I will refer to as my Opening Report. I subsequently submitted a second report on June 17, 2016 entitled "Rebuttal Expert Report of John R. Black, Jr.," which I will refer to as my Rebuttal Report.

3. I am being compensated for my work in this litigation at the rate of $550.00 an hour. My compensation does not depend in any way on the outcome of this litigation.

4. At this time, I have not created any exhibits to be used as a summary of, or as support for, my opinions apart from those included with my Opening Report and with this Rebuttal Report. I reserve the right to create additional summaries, tutorials, demonstratives, charts, drawings, tables, and/or animations to explain and illustrate my opinions if I am asked to testify at trial.

5. I am informed and understand that the Court permitted Cisco to maintain its copyright assertions against Arista regarding several hundred "help strings" that Cisco accuses Arista of copying in this lawsuit, but allowed Arista to take written discovery and a deposition of a Cisco witness on topics relating to "help strings" recently and after the close of fact discovery. I also understand that Cisco did not disclose these copyright assertions regarding "help strings" until the end of fact discovery, that no fact discovery into the specifically asserted "help strings" was taken or obtained by Arista during the fact discovery period, and that Cisco's late disclosure of these "help string" allegations was the subject of motion practice before the Court. I also

understand that the motion practice over the "help string" allegations was not resolved until after my previously submitted expert reports and deposition were completed.

6. I did not have sufficient time or information to investigate and fully address the hundreds of asserted "help strings" in either of my previously submitted expert reports, and discussed this fact and these circumstances in my reports and at my deposition. I have prepared and am submitting this supplemental expert report to further address the asserted and accused "help strings" in view of the Court's order permitting Cisco to maintain them, the fact discovery recently obtained by Arista, and Cisco's most recent September 27, 2016 filing with the Court.

7. In order to inform my opinions contained in this report, I have asked Arista's lawyers to provide testimony from fact witnesses as to the creative process, if any, used by the creators of the asserted help strings, and to ask them to what extent authors relied on other sources such as textbooks, existing software, industry standards documents, etc., in the creation of the asserted help strings. I was informed that Arista did seek to discover the answers to these questions, but given that Cisco's help string infringement allegations came at the very end of fact discovery, Arista did not have the opportunity during depositions of past witnesses to ask about help strings. I was further informed that the Court allowed a single 30(b)(6) deposition of corporate witness Kirk Lougheed who, as discussed further below, was unable to provide specific answers to any of these questions.

II. PROFESSIONAL BACKGROUND

8. My professional background and qualifications have already been set forth in detail in my Opening Report, and my current CV was attached as Exhibit 1 to my Opening Report. For brevity, I will not repeat that information here, but instead incorporate information about my Professional Background from my Opening Report by reference in its entirety into this

Supplemental Report. I also provided additional information about my expert qualifications at my deposition, which I incorporate by reference into this Supplemental Report.

III. SUMMARY OF OPINIONS

9. Based on Cisco's discovery responses, Dr. Almeroth's "Exhibit Copying-6" to his Opening Report, and Cisco's September 27, 2016 filing with the Court, I understand that Cisco accuses Arista of copying several hundred "help strings" from "IOS XR 514"[1] as well as IOS. In my opinion, these help strings are all comprised of common computer science terms and/or industry-standard terms (*i.e.*, are terms defined and/or used in IEEE, IETF, and other standards-related documents, including formal industry standards) and therefore lack sufficient originality and creativity to be eligible for copyright protection.

10. The asserted "help strings" are also factual and therefore do not qualify under the legal requirements for copyrightability as I understand those requirements.

11. Most of the asserted help strings are also comprised of just a few words and are therefore ineligible for copyright protection under the Words and Short Phrases doctrines as well.

12. Many of the asserted help strings are also very different from the accused help strings in that they expressly pertain to or describe completely different functionality, features, and/or networking protocols. Those differences support findings of non-infringement and no copying of those accused help strings.

[redacted]

[1] Cisco has not provided a clear answer regarding the particular version of Cisco's IOS XR being asserted; "IOS XR 514" (which is what appears in Exhibit Copying-6) could mean "IOS XR 5.1.4," or perhaps "IOS XR 5.14" or something else. Cisco's corporate witness on its "help strings" allegations, Kirk Lougheed, was unable to shed any light on this question. *See* Lougheed Depo. (Sept. 16, 2016) at 533:3–10. Unless I note otherwise, all references to testimony from Mr. Lougheed in this Supplemental Expert Report refer to his recent deposition on September 16, 2016.

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[redacted]

IV. LEGAL STANDARDS

14. A discussion of the legal standards that provide context for my opinions below was already provided in my Opening Report. In that discussion, I addressed (1) copyrightability and the scope of copyright protection; (2) the merger and *scenes a faire* doctrine; (3) the words and short phrases doctrine; (4) fair use; and (5) copyright misuse. I incorporate that prior discussion regarding my understanding of the relevant legal standards from my Opening Report into this Supplemental Expert Report.

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V. SCOPE AND PURPOSE OF THIS REPORT

15. On the last day of fact discovery, I understand that Cisco asserted new infringement allegations in a supplemental discovery response regarding several hundred short "help strings" that Cisco contends Arista copied. As I explained in my previously submitted reports and at my deposition, Arista's attorneys immediately notified me of these new allegations, but I was unable to conduct a thorough, careful, and principled analysis of those allegations before serving my Opening Report (which was due one week later), and within the two weeks allowed for my Rebuttal Report due both to time constraints and the fact that Arista had no opportunity to take discovery regarding these new assertions. I therefore mentioned these "help string" allegations only in passing in those previously submitted reports.

16. I have now been asked to provide supplemental opinions with respect to these new "help string" allegations. However, the time available for the research and evaluation of facts to form my opinions on these "help string" allegations has still been quite short, and the amount and scope of fact discovery that I understand the Court allowed Arista to take is far more limited than the fact discovery that I understand Arista obtained from both Cisco and third parties like Juniper, Dell, and HP regarding Cisco's other copyright allegations.

17. I understand that Arista was allowed to serve written discovery (interrogatories) on Cisco regarding the creation of the asserted "help strings," and was also allowed to take a single Rule 30(b)(6) corporate deposition of Cisco on the disputed "help strings." No third-party discovery was permitted. I understand that Cisco designated Kirk Lougheed to testify under Rule 30(b)(6) on certain "help string" topics, and that deposition was conducted on September 16, 2016. I received the final transcript of that Rule 30(b)(6) deposition last week, and have considered that testimony in forming my opinions. I also received a copy of Cisco's responses to Arista's interrogatories regarding "help strings," and considered those discovery responses in

forming my opinions. Finally, I very recently received a copy of Cisco's September 27, 2016 filing with the Court, and considered the portion of that filing that discusses Cisco's help string assertions.

18. Throughout this Supplemental Expert Report I refer back to my opinions stated in my Opening and Rebuttal Reports. For brevity, I do not repeat those previously stated opinions in this Report, but instead incorporate by reference in their entirety the substance of my two previously submitted expert reports into this Supplemental Expert Report.

VI. MATERIALS CONSIDERED

19. I have requested documents, witness testimony, and access to third-party devices and documentation in order to ascertain to what extent the accused "help strings" are considered part of the *de facto* industry standard that Cisco and other networking industry vendors refer to when discussing CLI, similar to the analysis I did for the 508 accused command abstractions and the accused command modes and prompts in my Opening Report.

20. Arista's lawyers have informed me that these materials will not be available to me due to the limited discovery available, and also given the relatively short timeline caused by Cisco's late disclosure of these opinions. Therefore, my opinions in the present report consider only Mr. Lougheed's recent Rule 30(b)(6) testimony, Cisco's allegations (including as addressed in its recent September 27, 2016 filing with the Court), Cisco's Objections and Responses to Defendant Arista Networks Amended Seventh Set of Interrogatories (including Cisco's Exhibit I to those responses), source code for Arista EOS 4.15.5M, several versions of Cisco source code reviewed and analyzed on the source code computer provided at the offices of Quinn Emmanuel in San Francisco, CA, and all materials considered in my Opening Report and Rebuttal Report. I also rely on my decades of experience using CLIs, including interactive or context-sensitive help systems supported by those CLIs, in forming these opinions. The CLIs that I have used in my

career were previously discussed in my Opening Report, Rebuttal Report, and also at my deposition.

VII. TECHNICAL BACKGROUND

21. Command Line Interfaces, or "CLIs" are interfaces by which a user can input commands to a computer system and receive, in response, some output. Their history, operation, functionality, application to networking devices, and other aspects of CLIs were described in my Opening Report, which is incorporated here by reference.

22. In my Opening Report and Rebuttal Report, I focused primarily on the accused command abstractions, modes, prompts, hierarchies, and command responses. In my Rebuttal Report, I made a few comments regarding Cisco's late accusations regarding "help strings"; in the present report I focus exclusively on these "help string" allegations.[2]

[redacted]

[2] In Cisco's allegations, Cisco uses the term "helpdesc" as a shortened form of "help description." Mr. Lougheed in his deposition testimony testified that that term "helpdesc" was unfamiliar to him and that the term "help string" was more familiar to him. *See* Lougheed Depo. at 415:24–416:5. I did not find any use of the term "helpdesc" when reviewing Cisco source code. However, I did see the term "helpdesc" used many times in *Arista* source code, which suggests that Cisco's attorneys acquired the term from Arista.

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24. In TOPS-20, the help system worked in the following way: if a user pressed "?", the system would respond with a list of commands available in the present mode. The prompt for TOPS-20 was an "@" sign, so it might look like this:

```
@? Command, one of the following:
 ATTACH        BLANK          BREAK          DAYTIME        FINGER
 HELP          INFORMATION    LOGIN          LOGOUT         SEND
 SET           SYSTAT         TERMINAL       UNATTACH
  or user name
@
```

25. Once a command word is entered into the CLI, the user can press "?" again and the CLI provides all valid words that may follow. For example, if I type "send" and then type "?", the TOPS-20 CLI tells me what options I have from here:

```
@send ? user name
  or Local terminal number
  or Network address
```

The text strings (which are sometimes referred to as just "strings" in this Report) shown above—"user name", "Local terminal number" and "Network address"—are what are known as "help strings" since they are English descriptions of items the CLI allows in the given context. Note that this help behavior only makes sense for *interactive* users (*e.g.*, a human user interacting with the CLI): a scripted or programmed interaction with a CLI would typically never issue a "?" query since the scripted or programmed interaction presumably knows the specific commands that will be issued and would therefore have no need for a "help" system like this.[3]

26. Finally, the help facility works even when a *part* of a command word is entered, and it will offer valid completions of the command word. For example, if I type "L?" in the TOPS-20 CLI, it offers the following options:

[3] It is possible in unusual cases that a script might issue a "?" query at a CLI. For example, compliance testing or regression testing might make use of a "?" query. But in the vast majority of normal use cases, the help system is provided for and exists only for interactive human users of the CLI.

```
@L? Command, one of the following:
 LOGIN    LOGOUT
  or user name
@L
```

27. The asserted Cisco help system works in almost exactly the same way. All three help modes mentioned above in my discussion of TOPS-20 are supported. A difference is that Cisco's CLIs offer additional English descriptions alongside each keyword that is available in a given context. For example, in Cisco IOS 12.4, in global configuration mode, a user might enter a "?":

```
router(config)#?
Configure commands:
  aaa                         Authentication, Authorization and Accounting.
  access-list                 Add an access list entry
  alarm-interface             Configure a specific Alarm Interface Card
  alias                       Create command alias
  appfw                       Configure the Application Firewall policy
  archive                     Archive the configuration
  arp                         Set a static ARP entry
  async-bootp                 Modify system bootp parameters
  backhaul-session-manager    Configure Backhaul Session Manager
  banner                      Define a login banner
  bba-group                   Configure BBA Group
  boot                        Modify system boot parameters
  bridge                      Bridge Group.
  buffers                     Adjust system buffer pool parameters
  busy-message                Display message when connection to host fails
  call                        Configure Call parameters
  call-history-mib            Define call history mib parameters
  carrier-id                  Name of the carrier associated with this trunk
                              group
  cdp                         Global CDP configuration subcommands
  chat-script                 Define a modem chat script
 --More--
```

(Note that this screenshot shows only the first page of options; there are additional pages after this that I have omitted in the above screenshot, but I have attached all of the options as **Exhibit 7** to this Supplemental Report.) The information shown in the screenshot above indicates to the user that she could type "aaa" as a command keyword at the command prompt (as well as a long

list of other command keywords). The "help string" associated with the "aaa" command keyword, as shown in the screenshot above, is "Authentication, Authorization and Accounting." which is just an expansion of the "aaa" acronym.[4]

28. Similarly, using Arista's EOS operating system, a user can also type a "?" in global config mode:

```
aaa             Authentication, Authorization, and Accounting
agent           Configure agent settings
alias           Add a command alias
arp             Set a static ARP entry
banner          Configure system banners
bfd             Configure BFD specific configurations
boot            Modify system boot parameters
class-map       Configure QoS Class Map
clear           Reset functions
clock           Configure the system clock
control-plane   Configure control-plane features
cvx             Configure controller services
daemon          Configure a new daemon process
dcbx            Configure DCBX
diagnostic      Configure diagnostic tests
dot1x           IEEE 802.1X port authentication
email           Configure email client
enable          Modify enable password parameters
end             Exit from configure mode
environment     Configure environment parameters
errdisable      Configure errdisable
etba            Ebra Test Bridge configuration commands
event-handler   Event-handler config commands
event-monitor   Configure event monitor settings
```

[4] As explained in my Opening Report, "aaa" is a well-known acronym in the networking industry that means "authentication, authorization, and accounting." It was developed long before Cisco's founding, and therefore was incorporated wholesale as a "help string" into Cisco's CLI without attribution. Note that this particular help string is ***not*** among those asserted by Cisco in this litigation. However, many of the asserted "help strings" are or comprise similar well-known industry terms (*e.g.*, "Transmission Control Protocol"), and I have discussed many of these protocols in my Opening Report, including in Appendices A and B of my Opening Report, which I incorporate by reference into this Supplemental Expert Report.

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The Arista output also starts with "aaa" and also has a help string "Authentication, Authorization, and Accounting". Note that, apart from a few common keywords, the Arista EOS help screen is quite different from the Cisco help screen: "alias," "arp", "banner" and "boot" are the only common keywords shown here; "arp" and "boot" have the same associated help strings whereas "alias" and "banner" have different ones.

29. Once the user types "aaa" she can then press "?" again and another list of options appear based on this new context; for Cisco IOS it looks like this:

```
router(config)#aaa ?
  accounting      Accounting configurations parameters.
  attribute       AAA attribute definitions
  authentication  Authentication configurations parameters.
  authorization   Authorization configurations parameters.
  cache           AAA cache definitions
  configuration   Authorization configuration parameters.
  dnis            Associate certain AAA parameters to a specific DNIS number
  group           AAA group definitions
  local           AAA Local method options
  max-sessions    Adjust initial hash size for estimated max sessions
  nas             NAS specific configuration
  new-model       Enable NEW access control commands and functions.(Disables
                  OLD commands.)
  pod             POD processing
  route           Static route downloading
  session-id      AAA Session ID
  session-mib     AAA session MIB options
  traceback       Traceback recording
  user            AAA user definitions
```

30. The list above shows the valid keywords that can follow the "aaa" keyword for this version of IOS in its currently configured state. If I type a part of a given keyword, Cisco IOS will show me the possible valid completions, but without any accompanying help strings:

```
router(config)#aaa a?
accounting  attribute  authentication  authorization

router(config)#aaa a
```

31. This behavior in Cisco's CLI mimics the behavior from TOPS-20 but has a different set of commands and help strings appropriate to the networking device on which the operating system is running.

VIII. CISCO'S CONTENTIONS

32. I understand that Cisco contends that several hundred "help strings" found in IOS XR 514 were copied by Arista into help strings that appear in Arista's EOS operating system. I base this understanding on Cisco's supplemental interrogatory responses served at the end of the fact discovery, as well as Dr. Almeroth's "Exhibit Copying-6" and related opinions stated in his Opening Report dated June 3, 2016. As addressed further in this Report, I also reviewed the portion of Cisco's submission to the Court on September 27, 2016 (ECF 550-1 and 550-2) that discusses the "help strings" that it is asserting against Arista, and I note that the list of "help strings" in Cisco's September 27, 2016 submission appears to differ in certain respects from its discovery responses and Dr. Almeroth's Exhibit Copying-6. I note and discuss some of those differences further in this Supplemental Report.

33. I have been informed and understand that Cisco does *not* allege any source code copying by Arista in this case, and that Cisco made this clear to the Court at a hearing recently held on *Daubert* motions. Specifically with respect to the asserted "help strings," I understand that there are no allegations that Arista copied Cisco's source code, or copied anything from Cisco's source code, in connection with Cisco's "help string" copyright assertions. Should Cisco contend or be allowed by the Court to contend otherwise, I reserve all rights to present evidence and an opinion refuting any such contentions. Based upon Cisco's representations, however, the sole assertion regarding help strings is that help text that may appear on the screen of a computer logged into an Arista switch is similar to certain text that may appear on the screen of a computer logged into a Cisco switch.

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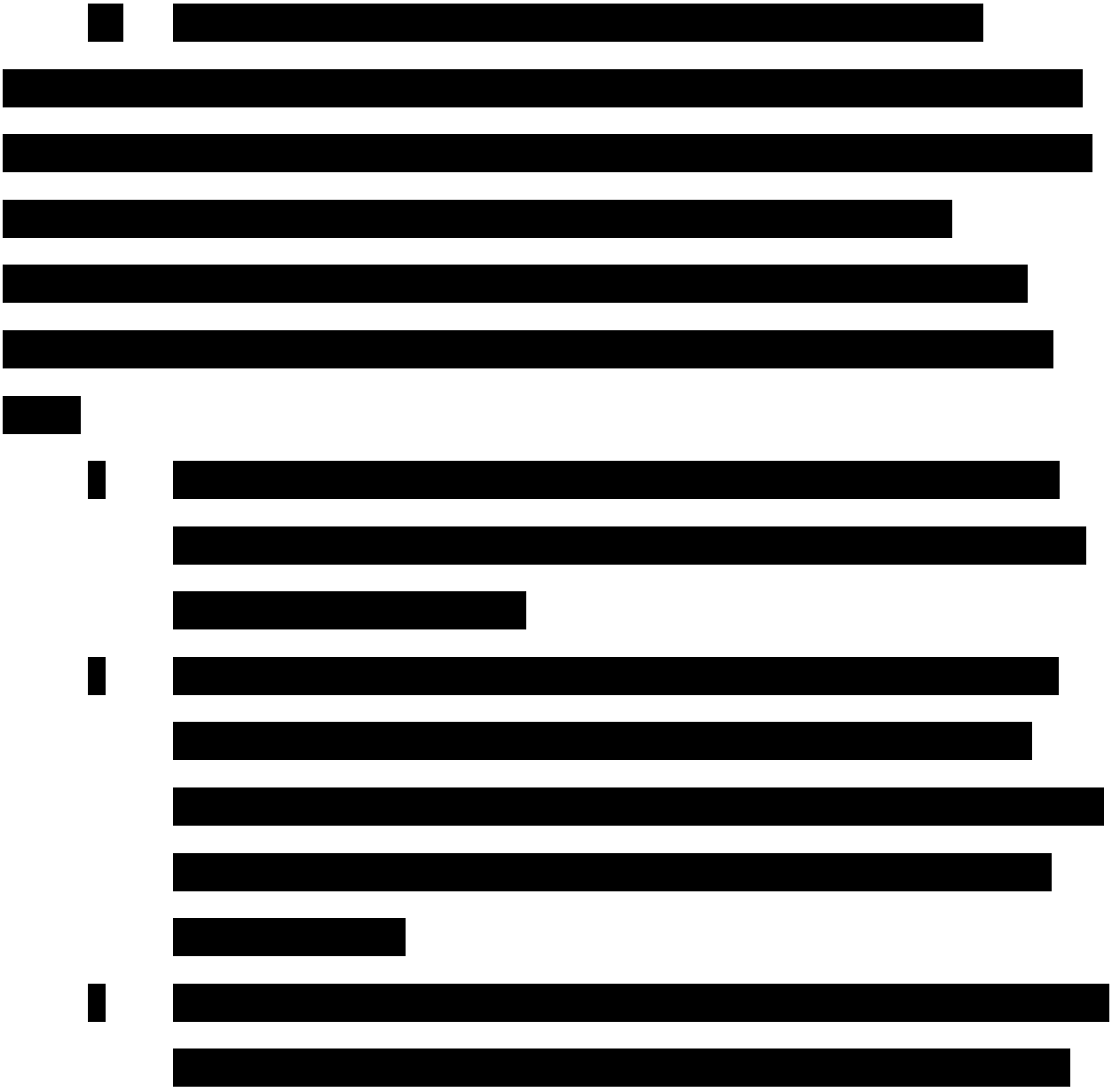
34. I have reproduced Cisco's list of accused help strings in a spreadsheet marked as **Appendix O** to this report. **Appendix O** is based upon the table portion (pages 1 through 19) of Exhibit Copying-6 to Dr. Almeroth's Opening Report. **Appendix O** lists the Cisco-asserted help string in the first column and the Arista accused help string in the second column. I then note whether the two help strings match or not (*i.e.*, are verbatim the same); non-matching strings are marked with an "X" in the third column.



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[redacted]

36. A cursory glance at **Appendix O** shows that in many cases Arista uses a different capitalization in the accused help string listed opposite Cisco's asserted help string. In many more cases, the accused help string uses different words or spellings. And in several cases the help strings have at best a superficial similarity. Regardless of whether I state that two strings are a "match" in **Appendix O** despite differences in capitalization or terminating periods, it is nevertheless my opinion that all of these differences between the asserted and accused strings—including differences between the use of terminating periods and capitalization—are relevant to Arista's defenses in that they tend to disprove any assertion of "verbatim copying" by Arista.

37. Finally, in the last column of **Appendix O**, I offer comments regarding the accused Arista help string. For words and phrases that are a common and customary part of general computer science usage (both at the time they were used by Cisco in the asserted string and also when used by Arista in the accused string), I write "common computer science terms." Examples here include such phrases as "delete a file" or "copy from one file to another" or "end of range." For phrases that are part of an IEEE or IETF standard or RFC, I highlight the relevant keywords in the accused Arista help string and cite to the reference where these keywords can be found. Finally, if Cisco merely repeats the same accused Arista string repeatedly (which they do on several occasions for different asserted Cisco strings), I wrote "Redundant" in red in the right-hand column, and if the asserted help string has little to no similarity to the accused string (*e.g.*, the accused string is associated with a different function, feature, or protocol than the asserted string, and/or is associated with a different command or command keyword), I write "Unrelated Help Texts" in the right-hand column.

38. I also address additional "help string" allegations by Cisco in spreadsheets marked as **Appendices P** and **Q** to this Report. **Appendix P** addresses the highlighted help strings shown on pages 104 and 105 of Cisco's September 27, 2016 submission to the Court (ECF 550-1). **Appendix Q** addresses additional disputed help strings listed on pages 106 to 111 in Cisco's September 27, 2016 submission to the Court. Those Appendices follow a similar approach, and include similar opinions, to **Appendix O** as I have discussed above.

IX. MERITS OF CISCO ALLEGATIONS

39. Setting aside differences such as punctuation and capitalization for purposes of this analysis, 217 of the 441 pairs of help strings listed in **Appendix O** do ***not*** match the corresponding accused Cisco help string. That is, nearly 50% of the "help string" accusations leveled by Cisco in the side-by-side comparison table in Dr. Almeroth's Exhibit Copying-6 are at best "approximate matches." Take for example Cisco's accusation that its help string "Distance metric for this route" was purportedly copied when Arista implemented a help string "Administrative distance for this route." A "distance metric" is a well-known numeric measurement for the current status of a routing protocol (for RIP, hop count is used, for example). This quantity can change dynamically and can be used in routing decisions. "Administrative distance", despite use of the same word "distance" is an entirely different concept that is static and associated to the routing protocol used. For example, OSPF has administrative distance of 110, and RIP uses an administrative distance of 120. These are fixed static values that never change. The only remaining overlap between the two help strings is the phrase "for this route" which is an entirely generic English phrase (using the well-known and customary networking term of "route") that indicates exactly what it says—that the "Administrative distance" being configured isn't just any administrative distance, but it is specifically "for this route."

40. As a second example, consider the asserted help string "Enable NLSP on this interface" and the accused Arista help string "Enable VmTracer on this interface." Cisco's help string refers to NLSP, or NetWare Link Services Protocol, a protocol involved with the IS-IS interior gateway routing protocol, whereas Arista's help string refers to "VmTracer" which is a technology created by Arista (as discussed at length in my previously submitted reports) having to do with tracing Virtual Machines as they migrate in a network. My Opening Report in particular has a much longer description of this technology. The two technologies here, NLSP and VmTracer, are completely unrelated. Cisco therefore seems to be asserting that any sentence containing "Enable [XXX] on this interface" infringes their help string, regardless of the feature being referenced by the "XXX." In my judgment, 91 of the 441 pairs of help strings listed in **Appendix O** fall into this category: the asserted help string is so different to the accused help string, and refers to or describes a completely different function, parameter, concept, or thing, that the accusation of copying doesn't make sense, and has very little—if any—merit. These 91 pairs are marked in Appendix O with a comment, "Unrelated Help Texts".

41. At a minimum, for these 91 help string pairs, the fact that the allegedly copied help string is being used in a completely different and unrelated way and in a different context altogether, strongly supports a finding of non-infringement and no copying by Arista. For these help strings, it is clear that the accused strings are being used in Arista's product for different features, functions, and/or protocols than the asserted help strings in Cisco's product. Under those facts, it does not make sense for Arista to have copied those "help strings" from unrelated features in Cisco's products, and there is no circumstantial evidence of any improper copying by Arista because the alleged similarities between these accused and asserted help strings appear to be driven solely by common ideas rather than creative expression.

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42. But even if the jury were to find infringement, which I do not believe these facts support, Arista's use of the allegedly copied help string in a completely different and unrelated way and in a different context altogether strongly supports a finding of fair use. For these specific examples, Arista is using the allegedly copied text in a transformative way for something new, and with a further purpose or different character, altering the allegedly copied Cisco help text with new expression, meaning, or message.

43. Cisco also redundantly accuses the same Arista help string multiple times for different Cisco help strings. For example, Cisco lists the following pairings of Cisco help strings (left column) and Arista help strings (right column) in Exhibit Copying-6:

group using the v1 security model	Group using the v1 security model
group using the v2c security model	Group using the v1 security model
user using the v1 security model	Group using the v1 security model
group using the v1 security model	Group using the v2c security model
group using the v2c security model	Group using the v2c security model
user using the v2c security model	Group using the v2c security model

44. The "v1" and "v2c" here are referring to well-known versions of the SNMP protocol (once again, for this and other standardized protocols, my Opening Report contains a detailed discussion of this industry standard protocol, which I incorporate by reference in this Supplemental Report). As shown above, Cisco takes every permutation of a first word "group" or "user" and pairs it with every permutation of "v1" and "v2c" and then juxtaposes with each Arista permutation with "v1" and "v2c" in the right column. This allows Cisco to expand what would reasonably be a single accusation of copying (or at best two accusations) into six. This practice is not rare in Cisco's list of accusations. Take the following example from Exhibit Copying-6:

Apollo interface status and configuration	IP interface status and configuration

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AppleTalk interface status and configuration	IP interface status and configuration
CDP interface status and configuration	IP interface status and configuration
CEF interface status and configuration	IP interface status and configuration
CLNS interface status and configuration	IP interface status and configuration
DECnet interface status and configuration	IP interface status and configuration
IP interface status and configuration	IP interface status and configuration
IPX interface status and configuration	IP interface status and configuration
Interface status and configuration	IP interface status and configuration
Show interface status and configuration	IP interface status and configuration
TARP interface status and configuration	IP interface status and configuration
XNS interface status and configuration	IP interface status and configuration
fcp interface status and configuration	IP interface status and configuration

45. Here a single Arista help string "IP interface status and configuration" is expanded into a list of 13 Cisco strings from which it was purportedly copied, where 12 of these pairs refer to different protocols that are not IP (and one has the word "show," which isn't even a protocol to begin with). In fact, most of the protocols listed in the left column (the Cisco help strings) are not even supported on the accused Arista switching equipment: some are obsolete or little-used (*e.g.*, AppleTalk, DECnet, IPX, and XNS) and others are Cisco-only protocols (*e.g.*, CDP, and CEF). It makes no sense to me to put help strings for 12 completely different protocols side-by-side, as Cisco has done here.

46. Cisco then proceeds to do the same thing for the "IPv6" version of this help string, repeating it multiple times in the Arista column in Exhibit Copying-6:

Apollo interface status and configuration	IPv6 interface status and configuration
AppleTalk interface status and configuration	IPv6 interface status and configuration
CDP interface status and configuration	IPv6 interface status and configuration
CEF interface status and configuration	IPv6 interface status and configuration

CLNS interface status and configuration	IPv6 interface status and configuration
DECnet interface status and configuration	IPv6 interface status and configuration
IP interface status and configuration	IPv6 interface status and configuration
IPX interface status and configuration	IPv6 interface status and configuration
Interface status and configuration	IPv6 interface status and configuration
Show interface status and configuration	IPv6 interface status and configuration
TARP interface status and configuration	IPv6 interface status and configuration
XNS interface status and configuration	IPv6 interface status and configuration
fcp interface status and configuration	IPv6 interface status and configuration

47. This results in 13 further accusations, none of which matches between the Cisco and Arista help strings. Then Cisco does this a third time with the Arista "Interface status and configuration" help string in Exhibit Copying-6:

Apollo interface status and configuration	Interface status and configuration
AppleTalk interface status and configuration	Interface status and configuration
CDP interface status and configuration	Interface status and configuration
CEF interface status and configuration	Interface status and configuration
CLNS interface status and configuration	Interface status and configuration
DECnet interface status and configuration	Interface status and configuration
IP interface status and configuration	Interface status and configuration
IPX interface status and configuration	Interface status and configuration
Interface status and configuration	Interface status and configuration
Show interface status and configuration	Interface status and configuration

TARP interface status and configuration	Interface status and configuration
XNS interface status and configuration	Interface status and configuration
fcp interface status and configuration	Interface status and configuration

48. This practice in Cisco's allegations turns what I would consider at most two or three matching help strings into 39 separately listed copying accusations. This not only makes

very little sense (as it is implausible that Arista purportedly copied the same resulting string from 12 *different* strings), but it greatly and artificially expands the appearance of the number of overlaps between the two works.

49. To illustrate the extent of the redundancy in Cisco's allegations shown in the table portion (pages 1 through 19) of in Exhibit Copying-6, I ran a program to count up the number of times a given help string was repeated in the first column (Cisco help strings) and in the second column (Arista help strings); the results are in **Exhibits 9** and **8**, respectively. Cisco has asserted the same Cisco help string up to 5 times (see **Exhibit 9**) and many others 3 or 4 times. In fact, there are only 336 distinct asserted strings in the table portion (pages 1 through 19) of Exhibit Copying-6. For the accused Arista help strings (see **Exhibit 8**), Cisco redundantly accuses certain Arista help strings 13 times (as just seen above), and certain others 2, 3 or 4 times. In fact, there are only 298 distinct Arista strings listed in the second column of the table shown on pages 1 through 19 of Exhibit Copying-6. It is therefore my opinion that a fairer comparison between these two lists would result in an exhibit with far fewer rows than the 421 pairings shown in the table portion (pages 1 through 19) of Exhibit Copying-6.

50. Furthermore, these repeat allegations suggest that Cisco and Dr. Almeroth do not consider the networking protocol name (*e.g.*, IP, IPv6, IPX, DECnet, etc.) or the word "show" to be particularly important to its allegations of copying, as Cisco appears to completely ignore those differences between the Cisco and Arista "help strings." If Cisco means to suggest by these repeat allegations that well-known industry standard and defined acronyms like "IP" and "IPv6", and ubiquitous pre-Cisco command words like "show" are ***not*** protected by copyright, I would agree with that, as that is one of my opinions expressed in this report and in my previously submitted reports.

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51. These mismatches also support a finding of non-infringement and no copying by Arista for the same reasons that I explained above with respect to the 91 help string pairs being used in a completely different and unrelated way and in a different context altogether. For these mismatched help strings, the accused strings are being used in Arista's product for different features, functions, and/or protocols than then asserted help strings in Cisco's product. Under those facts, it does not make sense for Arista to have copied those "help strings" from unrelated features in Cisco's products or from upwards of twelve different unrelated help strings, and there is no circumstantial evidence of any improper copying by Arista because the alleged similarities between these accused and asserted help strings appear to be driven solely by common ideas rather than creative expression.

52. Even if there is an infringement finding, which I do not believe these facts support, Arista's use the allegedly copied help string in a completely different and unrelated way and in a different context altogether strongly supports fair use, as—once again—the function and meaning of the asserted "help text" (*e.g.*, relating to DECnet functionality) does not match the function and meaning of the accused "help text" (*e.g.*, relating to IP or IPv6 functionality). For these examples, Arista is again using the allegedly copied text in a transformative way for something new, and with a further purpose or different character, altering the allegedly copied Cisco help text with new expression, meaning, or message.

53. Finally, I note that many of the phrases asserted and accused by Cisco consist of common and customary computer science terms and phrases such as "interval in seconds", "list file information", and "name of the group." I have already mentioned several others in this Supplemental Report, and identify many more in **Appendix O**, as well as in **Appendix P** and **Appendix Q**. Others are based on well-known industry standard terms, many of which are

explicitly defined in the standards documents, such as "TCP" and "OSPF" and "last member query interval". These opinions are discussed further below regarding copyrightability and defenses to copyright, but I note briefly here that the use of such customary and standardized networking terms is not surprising at all, as "help strings" serve one functional purpose in a CLI—to state in a factual, clear, and concise manner the functionality associated with a particular command keyword so that the user does not need to consult a user manual.

X. USE OF HELP STRINGS BY OTHER VENDORS

54. In my Opening Report I conducted an extensive survey of CLI command usage by other vendors. My approach relied on an analysis of the CLI documentation produced by other vendors which contained a large number (though probably not all) of the CLI commands supported by a given vendor's products. Unfortunately, for the present analysis of help strings, this approach was not feasible: although a few help strings are sometimes shown in a vendor's CLI documentation, most of them are not shown or listed in user documentation. Instead, the best way to access the help strings is to use the CLI on the device itself (with Arista EOS, one could actually do this using a virtual switch, like vEOS). Therefore, this analysis would require access to an array of devices from each vendor in order to extract the help strings from them. Given the difficulty of completing this analysis the short span of time provided to me to prepare this supplemental report, and the inability to obtain any third-party discovery, I had to forgo this step.

55. However, it is clear that there are other networking CLI vendors whose help strings have at least some degree of overlap with Cisco's and Arista's help strings. This is apparent from a video published by Cisco-competitor and switch manufacturer Dell on its YouTube channel, where Dell compares its FTOS operating system to a Cisco IOS operating

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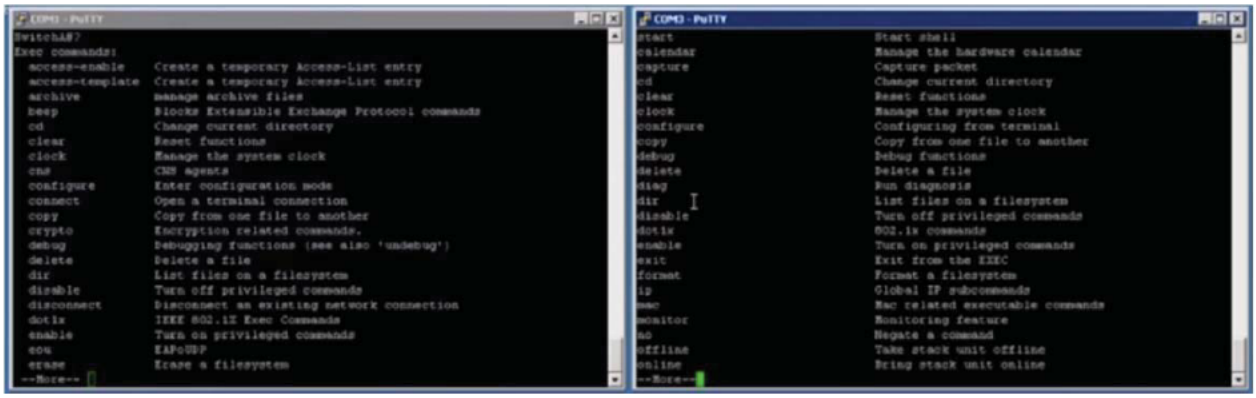
system.[5] At 49 seconds in this video, the presenter shows help strings in a given mode on both a Cisco IOS device (left screen) and a Dell FTOS device (right screen):



Here we see a number of matching help strings. For example, the Cisco command "clock" has help string "Manage the system clock." Dell uses the identical help string. The "cd" command has help string "Change the current directory" and again Dell's help string is the same. In fact, in most cases where a matching command is shown between the Cisco command list and the Dell command list, the help strings match:

Command Keyword	Cisco Help String	Dell Help String
cd	Change current directory	Change current directory
clear	Reset functions	Reset functions
clock	Manage the system clock	Manage the system clock
copy	Copy from one file to another	Copy from one file to another
debug	Debugging functions	Debug functions
delete	Delete a file	Delete a file
dir	List files on a filesystem	List files on a filesystem
disable	Turn off privileged commands	Turn off privileged commands
dot1x	IEEE 802.1x Exec Commands	802.1x commands
enable	Turn on privileged commands	Turn on privileged commands

[5] https://www.youtube.com/watch?v=Pel1pffyuDk. I also briefly discussed this video in my Opening Report, and it was produced by Arista and used as deposition exhibit during the deposition of Dell's corporate witness, Gavin Cato.

56. The above table comparing Cisco and Dell "help strings" shows that at least one other vendor in addition to Arista uses a substantial fraction of the same help strings for this one set of command keywords. At a minimum, this suggests that a thorough investigation of Dell's usage of the same or similar "help strings" as Cisco, and the usage by other vendors of the same or similar "help strings" as Cisco, would likely have yielded substantial overlaps, particularly given the substantial commonality among accused command abstractions, modes, and prompts across many different vendors.

XI. OPINIONS REGARDING COPYRIGHTABILITY OF THE ASSERTED SUBJECT MATTER

57. I incorporate by reference the legal standards recited in my Opening Report as they were explained to me by Arista's attorneys. This includes the statutory requirements for subject matter eligibility.

58. In my opinion, the asserted help strings are ineligible for copyright protection. The help system supported by Cisco's, Arista's, and many other vendors' CLIs is in fact a "system" which is expressly precluded from copyright protection. Further, the help system is entirely factual and functional in nature: its purpose is to provide a concise as possible factual description of the corresponding keyword's *function*. In my Opening Report, as part of my discussion of CLI features supported by many different vendors in the networking industry, I expressly noted if and when each vendor supported "context-sensitive" help systems, and build upon those previously stated opinions here. *See, e.g.*, Opening Report ¶¶ 110 (EOS), 207 (ADTRAN), 216 (Alcatel), 223 (Allied Telesis), 236 (Ayava), 252 (Foundry), 253 (Brocade), 271 (Dell), 273 (Force10), 308 (D-Link), 318 (Edge-Core), 330 (Ericsson & Redback), 341 (Extreme), 351 (HP), 373 (Juniper JUNOSe), 387 (ISCLI), 394 (NETGEAR), 403 (NextHop),

411 (Oracle/Sun), 421 (Procket), 512 (SUMEX), 557 (TOPS-20), 568 (TOPS-20), and 580 (SUMEX).

[redacted]

60. In addition to the foregoing, it is my opinion that the asserted help strings lack any meaningful originality or creativity. The vast majority of asserted strings consists of either very generic English phrases, very generic phrases from computer science, or are phrases that appear verbatim or nearly verbatim in published networking standards, such as from the IETF or IEEE (or both).

61. For example, the following help strings are asserted by Cisco against Arista: "copy from one file to another," "delete a file," "Directory or file name," "Display current working directory," "Display detailed information," "Display the contents of a file," "End of range," "Enter configuration mode," "Exit from configuration mode," "File to be deleted," "File to display," "Interval in seconds," "List file information," "List files on a filesystem," "Name of

the group," "Name of the user," "Print summary information," "Time in seconds," "Verify a file," "Time in minutes," "Show detailed information," "Rename a file," and so on. These phrases are so generic and so basic in describing core functionality found in almost every CLI, they almost certainly have been independently used in various other contexts or perhaps in even the same context prior to Cisco's use. Although I have not had sufficient time or the availability of discovery tools to conduct a thorough and principled analysis of the degree to which these phrases have been used, it is my opinion that such phrases (at the time Cisco put them to use and still today) (1) so common and customary that lay users of the relevant networking equipment will know, understand, and use many of them and (2) lack originality and creativity to merit copyright protection. It does not make sense, and certainly does not promote the progress of science and the useful arts, for any company to hold a copyright on basic networking and computer science phrases like "delete a file" or "end of range." This would, in my opinion, place a heavy and unfair burden on future innovation.

62. In a similar vein, many of Cisco's asserted help strings incorporate, either wholly or in part, words taken directly from industry standard documents that Cisco did not create. I give a few examples here, with a full list represented in the comments column of **Appendices O**, **P**, and **Q** to this Supplemental Report.

63. One clear example is the help string of "transmission control protocol." Transmission Control Protocol, or TCP, is one of the fundamental and most important protocols on the Internet. As I noted in Appendix A to my Opening Report, the roots of TCP extend back to the earliest days of the ARPAnet in the 1970s. Vint Cerf is often credited for the creation of TCP, as Cisco's corporate witness acknowledges. *See* Lougheed Depo. at 548:13–16. It is therefore no surprise that TCP is described in an early IETF document, RFC 793 (dated

September 1981). Yet, as part of his "help strings" allegations, Cisco nevertheless claims the phrase "transmission control protocol" (standing alone and with no surrounding text) as its property and copyright, and accuses Arista of infringing Cisco's copyright by using this 1970s core internet protocol name in an Arista EOS help string. "Transmission Control Protocol" was a well-known and customary term before Cisco existed, and there is no originality and creativity to using this term to describe the functionality of a command keyword associated with that very protocol.

64. As another example, Cisco claims "Last member query interval in milliseconds" and accuses Arista's similar help string "Last member query interval in deciseconds" as infringing. However, as noted in Appendix A to my Opening Report, "last member query interval" is a specified and defined quantity in the IGMP specification, a specification that Cisco did not author. It is used 13 times in IETF RFC 2236 and defined in that document:

> 8.8. Last Member Query Interval
>
> The Last Member Query Interval is the Max Response Time inserted into Group-Specific Queries sent in response to Leave Group messages, and is also the amount of time between Group-Specific Query messages. Default: 10 (1 second)

65. It would seem, therefore, that Cisco's contribution is to add "in milliseconds" to this IETF-defined standardized term. The amount of originality or creativity involved in this phrase is insignificant: the phrase "last member query interval" itself was taken directly from the IETF RFC and the mere indication of what time unit the system is using for the interval is not creative, but a plain statement of fact. Moreover, if denoting the time units is creative enough to warrant protection under copyright law, surely the fact that Arista chose a different time unit (deciseconds instead of milliseconds) shows Arista did not copy protectable expression, or at least its use of common terms was a transformative use. Either way, if Cisco were granted

copyright protection on the phrase "Last member query interval in XXX" where "XXX" is any unit of time, this would place a heavy and unfair burden on other software creators, and would not promote the progress of science and the useful arts.

66. As a final example, consider the Cisco-asserted help string "identification of the contact person for this managed node." Although it is one of the longer help strings Cisco asserts, and although it seems to be largely devoid of technical terms, it appears verbatim in the SNMP specification for the sysContact field of a MIB entry, as shown in RFC 1213:

```
sysContact OBJECT-TYPE
    SYNTAX  DisplayString (SIZE (0..255))
    ACCESS  read-write
    STATUS  mandatory
    DESCRIPTION
            "The textual identification of the contact person
            for this managed node, together with information
            on how to contact this person."
    ::= { system 4 }
```

67. Although it is possible that the Cisco author did not lift this phrase from the SNMP specification and just coincidentally happened to form this same 9-word phrase without reference to the SNMP document, this possibility only underscores how constrained one is in choosing short phrases to describe strictly-defined terminology. If Cisco were granted copyright protection on the phrase "identification of the contact person for this managed node," which is a phrase that appears verbatim in an IETF RFC, this would place a heavy and unfair burden on other software creators, and would not promote the progress of science and the useful arts.

68. The foregoing examples are not exhaustive. Cisco's list of asserted help strings is replete with examples of the type just given: either so generic as to be devoid of any reasonable measure of creativity or originality, or simply borrowings of well-known standard terminology from documents created outside of Cisco and then adopted verbatim or nearly-verbatim by engineers who were given free rein to do so.

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XII. OPINIONS REGARDING CISCO'S HELP STRINGS AND THE WORDS AND SHORT PHRASES DOCTRINE

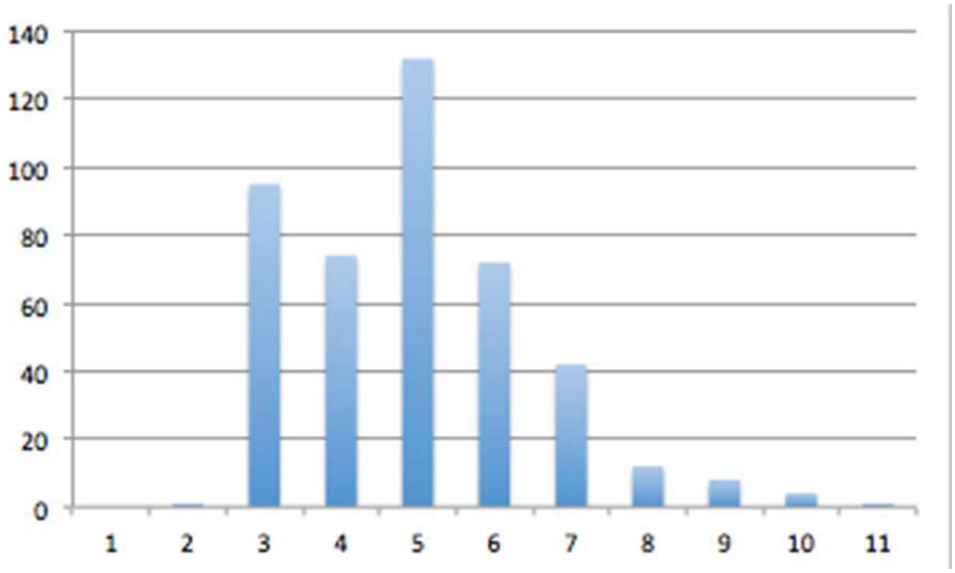
69. My understanding of the Words and Short Phrases Doctrine is outlined in my Opening Report, which I incorporate herein by reference.

70. The majority of asserted help strings by Cisco are composed of 5 words or fewer. The word counts for the side-by-side comparison table in Exhibit Copying-6 look like this:

Number of Words in Help String	Number of Strings with this Word Count
2	1
3	95
4	74
5	132
6	72
7	42
8	12
9	8
10	4
11	1

71. As the above table shows, 302 of the asserted 441 help strings listed in the table portion (pages 1 through 19) of Exhibit Copying-6 to Dr. Almeroth's Expert Report have 5 words or fewer.[6]

[6] The vast majority of asserted help strings in **Appendices P** and **Q** are also five words or fewer in length, as is evidence from simply reviewing the list.



Histogram showing number of asserted Cisco help strings based on number of words contained in those strings

72. The words and short phrases doctrine easily applies to Cisco's "help strings" assertions because, as shown in the examples above and in **Appendices O**, **P**, and **Q**, the multi-word help strings largely if not exclusively consist of industry-standard or customary terms and phrases, like "transmission control protocol," and common descriptive phrases, like "Show detailed information" and "Rename a file," with no creativity. Those are precisely the types of short phrases to which this doctrine should apply.

XIII. OPINIONS REGARDING *SCENES A FAIRE*, MERGER, AND ARISTA'S DEFENSES TO CISCO'S COPYRIGHT CLAIMS REGARDING HELP STRINGS

73. My understanding of the doctrines of *scenes a faire* and merger is explained in my Opening Report and is incorporated herein by reference.

74. As explained above and shown in **Appendices O**, **P**, and **Q**, the vast majority of the asserted and accused "help strings" consist of terms that are defined or used in published IEEE or IETF industry standards, or are customary and common technical terms used in networking and computer science. In my opinion, this is true when Cisco allegedly created these help strings (for example, "transmission control protocol" was created in the 1970s and was

customary, common, and standard in the industry when Cisco allegedly used it in a help string), and still true when Arista put the accused help strings to use ("transmission control protocol" remains a customary, common, and standardized term in the networking industry). These customary and in many cases industry-standards defined terms are standard, stock, and common in networking CLIs to describe or refer to the underlying functionality of the switch.

75. Moreover, for a "help string" like "transmission control protocol," which serves the purposes of describing transmission control protocol, the "expression" truly merges with the idea as the words "transmission control protocol" refer directly to the now-standardized idea of transmission control protocol. The same merger doctrine would apply to the words "last member query interval" as it is used to refer to the idea of a last member query interval as defined by the relevant industry standards. Therefore, in those instances in **Appendices O**, **P**, and **Q** where the terms actually refer to the underlying idea of the same formal (and sometimes explicitly defined) name, the merger doctrine also applies.

[redacted]

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77. In other words, Cisco believes that it's quite plausible that two different engineers, given the task of writing a 3 or 4 word help string for a particular command keyword, could easily come up with the same or nearly identical help string without copying it from another source. I agree, and in fact, this squares well with the doctrines of *scenes a faire* and merger here: there are only a few reasonable ways, and in some instances only one reasonable way, to give a terse description of what a command keyword does. The above testimony regarding the "disable" command is a clear example.

[redacted]

[7] I am assuming that the Cisco source code marked "514_CRS" refers to IOS XR 5.1.4 and is the version of source code associated with Cisco's infringement contentions for the help string allegations. If this is not correct, I reserve my right to revise these analyses as appropriate based on any Cisco clarification on this issue. I note again that Cisco's corporate designee, Mr. Lougheed, was not able to provide this information at his deposition.

[8] The command used to count unique strings in Cygwin was "$ grep -r '^help:' --include *.cmd | sed 's/^.*\(\".*\"\).*$/\1/' | sort | uniq | wc –l" for .cmd files and "$ grep -r '^description:' --include *.sch | sed 's/^.*\(\".*\"\).*$/\1/' | sort | uniq | wc –l" for .sch files.

[9] See **Exhibit 9** to this report for a list of the asserted Cisco help strings from the table portion (pages 1 through 19) of Exhibit Copying-6 to Dr. Almeroth's report.

[redacted]

79. I also analyzed Arista EOS 4.15.5M and found at least 3,770 distinct help strings. From this set, based on the table on pages 1 through 19 of Exhibit Copying-6 to Dr. Almeroth's Expert Report, Cisco has accused 298 as being allegedly copied from Cisco[10]. This represents about 8% of the total Arista help strings in EOS. Once again, this is a significant over-counting of the actual matches between Cisco's asserted help strings and the accused Arista help strings due to the large number of unrelated help texts paired in the table portion of Exhibit Copying-6.

[redacted]

XIV. OPINIONS REGARDING FAIR USE AND ARISTA'S DEFENSES TO CISCO'S COPYRIGHT CLAIMS REGARDING HELP STRINGS

81. My understanding of the legal standards for the doctrine of fair use is given in my Opening Report, which I hereby incorporate by reference. There are four factors to consider, which I address in turn below.

[10] See **Exhibit 8** to this report for a list of the accused Arista help strings from the table portion (pages 1 through 19) of Exhibit Copying-6 to Dr. Almeroth's report.

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82. The Purpose and Character of the Use. As discussed in my Opening Report, and for those same reasons, Arista's use of the help strings is transformative. But in addition to those opinions stated in my prior reports, as noted above, many of the accused Arista help strings are very different from the asserted Cisco help strings, and are being used in a completely different context to describe different functionality (*e.g.*, VmTracer) and for different protocols (*e.g.*, IP as opposed to DECnet and IPX) than the allegedly copied Cisco help strings, which also shows transformative use. Moreover, it simply does not promote the progress of science and the useful arts for any company to hold a copyright on basic networking and computer science phrases like "delete a file" or "end of range" or on customary and standardized terms like "transmission control protocol" for the sole purposes of providing "help strings" to a CLI user. Both of these opinions support a finding of fair use.

83. The Nature of the Copyrighted Work. As discussed in detail in my Opening Report, unlike creative writing and science fiction, software is entitled to thin copyright protection as it serves a functional purpose. In this case, the "help strings" are not only part of the functional CLI, but they consist of bare factual descriptions of the functionality associated with a CLI command keyword. This also supports a finding of fair use.

[redacted]

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[redacted]

86. Moreover, the vast majority of CLI commands today are almost certainly issued via scripts or via other computers. In my experience, a networking CLI is used in the following cases: (1) Commands are issued via a script (that is, a prewritten set of CLI commands are executed without human intervention), (2) Commands are issued by another computer via its software (for example, Cisco's NSO product does this)[12], (3) Commands are issued by an expert user who has no need for help strings, and (4) Commands are issued by a beginner or intermediate user, or perhaps by a teacher.

87. If the help strings were removed from a networking CLI, the device would still function the same and have the same value in scenarios (1), (2) and (3) above. In case (4) the help strings would probably be used occasionally or frequently and would perhaps be of some use. As a user becomes more proficient, she uses the help strings less frequently. Similar to the use of a dictionary when we learn a foreign language: at first we might look up a word or two for

[redacted]

[12] For a description of NSO and its operation, please see my Opening Report.

each sentence we try to speak. But over time we use the dictionary less and less, and once we are fluent, we don't carry it anymore. Thus, in my experience using and teaching others to use networking CLIs, an advanced user rarely uses or needs the help strings.

88. But in any event, I understand Cisco is not (and could not) claim copyright in the idea of having help strings available, but only in the specific wording used in those strings. To my knowledge, Cisco has offered no evidence that there is any distinguishing value in the wording of its help strings, and I do not believe there is any value.

XV. OPINIONS REGARDING COPYRIGHT MISUSE AND OTHER DEFENSES TO CISCO'S COPYRIGHT CLAIMS REGARDING HELP STRINGS

89. Help strings in EOS, including the accused help strings in this lawsuit, are visible to any user of the EOS CLI, whether using the CLI on an Arista switch or using the vEOS virtual machine. Access to Arista's source code is not required to view help strings in EOS, nor is access to Cisco's source code required to view help strings in IOS or IOS-XR, because help strings in IOS and IOS-XR are also visible to any user of the IOS CLI and IOS-XR CLI.

90. I understand from reviewing Cisco depositions that Cisco had possession of multiple Arista switches as early as the 2008 and 2009 time period for testing purposes. *See* Drew Pletcher Depo. at 105:11-106:25. As described above, the help strings supported by the Arista EOS CLI were therefore readily accessible and visible to Cisco from that early time period, and Cisco did not need access to any Arista source code to determine whether any of the accused help strings supported by EOS were similar to help strings in any Cisco CLI.

91. In addition, as stated in my previously submitted expert reports, it is my opinion that no networking company should have the exclusive right to use (and to exclude others from using) concise factual descriptions of standardized or customary Ethernet switch and networking functionality, as that would turn copyright into a restriction on the practice and the ability to use

the function itself. I have provided several examples in this Report, and in Appendices **O**, **P**, and **Q**, of accused and asserted help strings that are only a few words and consist of industry standard terms (in many cases defined by the standard itself) or customary words and short phrases that provide concise factual descriptions of the *function* of a command keyword.

XVI. CISCO'S LATEST RECASTING OF THEIR ALLEGATIONS

92. On September 28, 2016, I received a copy of a document dated September 27, 2016, and entitled, "Cisco's Submission of Protectable Elements from its Copyrighted Works." [ECF 550-1 and 550-2.] I understand that Cisco filed that document with the Court close to midnight on September 27, 2016. This document appears to be a recasting of the allegedly copyrighted subject matter that Cisco is asserting in this case. It repeats several of the scientifically incorrect claims from prior pleadings as well as a section relevant to help strings. I will respond here specifically to the section addressing help strings on pages 98 to 111 of the document.

93. Cisco identifies the help strings contained in this section of their report as coming from "IOS and IOS-XR" without specifying what version of the respective operating systems they mean, nor citing to any copyright registrations. Cisco also refers to a "creative process" without any description of how that process was undertaken nor conceding that the bulk of the key terms and phrases used in their help strings were actually created outside of Cisco and adopted wholesale by Cisco engineers.

94. On pages 98 to103 of this document, Cisco gives a list of help strings under the heading "IOS" they are presumably using as their newest set of allegations. This is a dramatically reduced set of strings compared to the set of asserted help strings taken from the first column of the table in Exhibit Copying-6 to Dr. Almeroth's Expert Report: whereas the latter exhibit contained 336 distinct strings in its first column, Cisco's newest list contains only

212 asserted help strings. I presume this means they have abandoned 124 of their help-string allegations.

95. A cursory scan at Cisco's latest list reveals that they have withdrawn some of the many help strings I deemed "Unrelated Help Texts" in **Appendix O**. They have abandoned copying accusations for old protocols that Arista does not support, as well as help strings related to other protocols that Arista does not support. However, some of the help strings that are extremely generic—such as "delete a file" or "end of range"—are still present in the latest list, as well technical phrases that were invented outside of Cisco such as "Transmission Control Protocol" and "identification of the contact person for this managed node" both of which are taken verbatim from published standards documents created outside of Cisco, as explained above. And once again, the majority of the asserted help strings are 4 words or shorter.

96. Pages 104 to 105 appear to be screenshots taken from a session with a Cisco device where help strings are elicited for partial commands, "show", "show interface" and "show ip ospf". Many lines in these screenshots are highlighted in yellow without explanation. I have considered each highlighted help string and, provided they are not already addressed in Appendix O to this report, have listed them and commented on them in **Appendix P**. I also note that for 10 of the 25 asserted help strings I address in **Appendix P**, I was unable to find the asserted help string in EOS 4.15.5M and Cisco offers no citation to any Arista document or materials showing the existence of an identical or similar Arista help string for these cases. Should Cisco identify those accused Arista help strings, I reserve all rights to address them. However, in the absence of such allegations and evidence, my opinion is that these 10 help strings are not infringed given the lack of any allegedly similar help description in Arista's CLI. For all 25 help strings in **Appendix P**, I offer comments reflecting my opinion that the help

string is not original and that the doctrines of *scenes a faire,* words and short phrases, merger, and fair use apply, just as I have done in my analysis in **Appendix O**.

97. Pages 106 to 111 of Cisco's September 27, 2016 document contain a table with the heading "IOS-XR" that was presumably generated from some undisclosed version of that operating system. The table appears to be hastily assembled compared to the IOS table from pages 98 to 103: the help strings are not sorted, there appear to be parenthetical comments that are not part of the help string itself (and instead appear to be from the person or persons who created the table), and there are several help strings that appear multiple times. For example, each of the asserted help strings "Sequence number," "Global IPv6 configuration commands," "Detailed information," and "Brief output" appear three times in the table. The help strings, "route distinguisher," "VLAN ID," "Time in minutes," "Self-originated link states," "Redistribution of OSPF routes," "Redistribute OSPF internal routes," "Redistribute external routes," "Port number," "No accounting," "Neighbor information," "IPv6 information," "IP routing table," "Distribute a default route," "Detailed interface information," "Define an administrative distance," "Control distribution of default information," and "Advertising Router link states" each appear twice in the table. Therefore, although it appears that this table has 238 help strings, it in fact has only 213 *distinct* help strings after duplicates are removed.

[redacted]

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[redacted]

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101. All of my opinions stated above in this Supplemental Report regarding the lack of originality and creativity, and the applicability of the *scenes a faire,* merger, words and short phrases, and fair use doctrines, apply to the help strings I analyze in Appendices **O**, **P**, and **Q**.

XVII. RESERVATION OF RIGHTS FOR DEMONSTRATIVE AND SUMMARY EXHIBITS

102. I reserve all rights to prepare demonstratives and summary exhibits to illustrate the opinions I express here and the factual bases for them.